

REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

NON-ENTRY AFTER-FINAL AMENDMENT (UNLESS NEEDED AS SUBMISSION)

Applicant respectfully instructs that any prior after-final amendment(s) should NOT be entered, and instead, the present amendment should be entered in substitution thereof. However, in the event that any prior after-final amendment is needed to meet the RCE submission requirement, then such after-final amendment should be entered as a submission.

EXAMINER INTERVIEW ACKNOWLEDGED AND STATEMENT OF SUBSTANCE

This paper is responsive to the examiner interview conducted 08 March 2007, by and between (as indicated on the Interview Summary document) assigned Examiner Ram N. Kackar and attorney Paul J. Skwierawski, in the present application. It is respectfully submitted that the statement(s) regarding the "Substance of Interview", and all other information, as set forth within the Interview Summary document is accurate and is herein adopted by Applicant. Further to the above, any foregoing amendments may include amendments discussed during, or resultant from, the examiner interview, and the following includes a reiteration of discussions/arguments had during the examiner interview.

PENDING CLAIMS

Claims 1-15 were pending in the application. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is presently interested. At entry of this paper, Claims 1-15 will be pending for further consideration and examination in the application.

REJECTION UNDER '112, 2ND PAR. OBVIATED VIA CLAIM AMENDMENT

Claims 1-6 and 10-15 have been rejected under 35 USC '112, second paragraph, as being indefinite for the concerns listed on page 2 of the Office Action. Appropriate ones of such claims have been carefully reviewed and carefully amended where appropriate in order to address the Office Action listed concerns. As the foregoing is believed to have addressed all '112 second paragraph concerns, reconsideration and withdrawal of the '112 second paragraph rejection are respectfully requested.

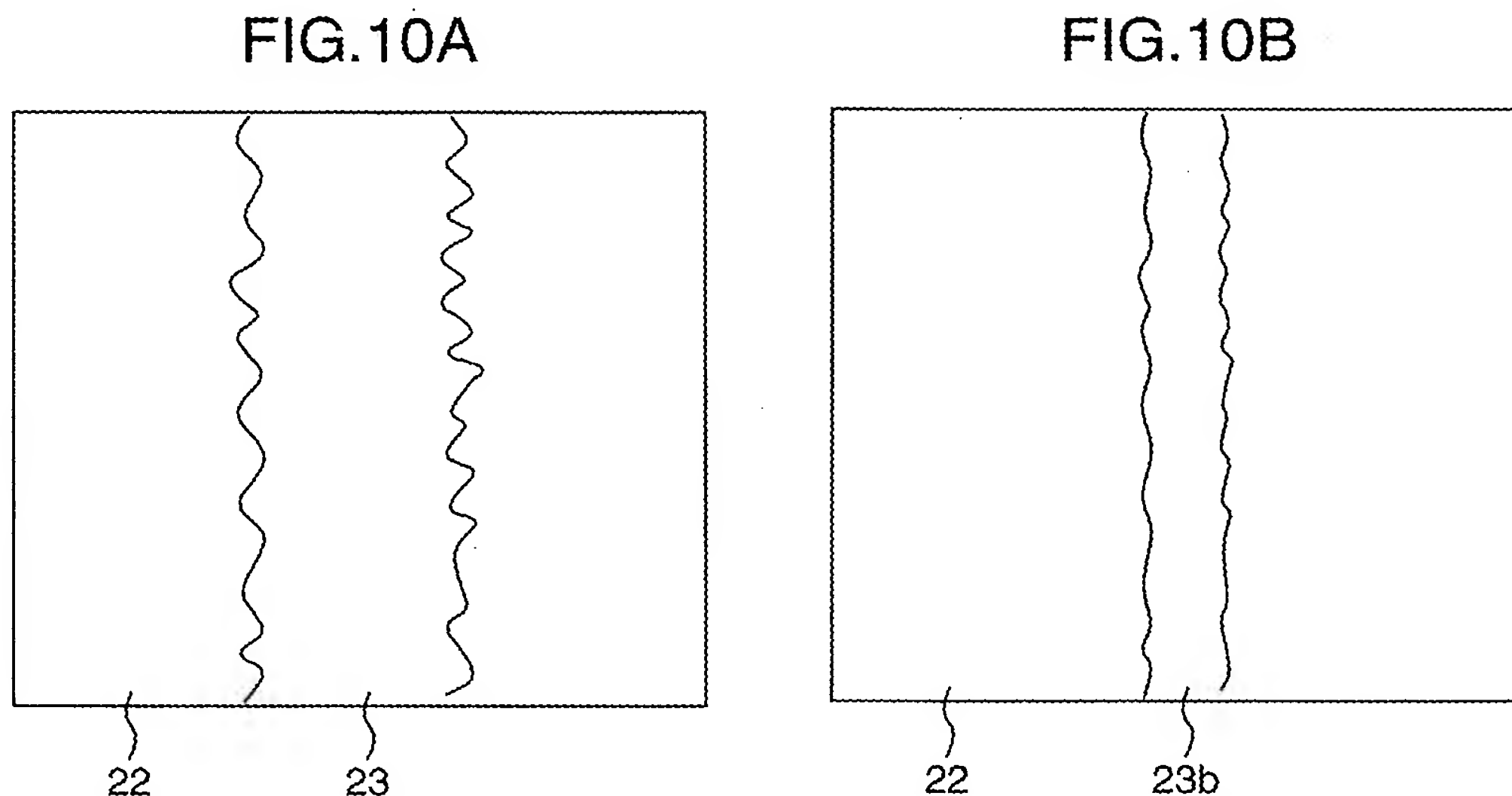
REJECTION(S) UNDER 35 USC '103

The 35 USC '103 rejection is respectfully traversed. However, such rejections have been rendered obsolete by the present clarifying amendments to Applicant's claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude renewal of any such rejections against Applicant's clarified claims.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

Applicant's disclosed and claimed invention is directed toward trim-treat arrangements which treat edge undulations along vertical mask sidewalls, and which utilize a calculator which automatically calculates a trim-treat time for ultimately achieving a target width (e.g., for a gate). Support for "edge undulation" can be found within Applicant's original specification, for example, at page 15, lines 7-15. Such "edge undulation" is sometimes also known within the art as line edge roughness (LER) or "striations" (as will be shown by art reference(s) discussed ahead).

Continuing discussions, it is noted that Applicant's FIGS. 10A (reproduced herewith) is a top view (i.e., above vertical mask sidewalls) showing undesirable edge undulations along vertical mask sidewalls. In contrast, FIG. 10B (reproduced herewith) is a top view showing improved edge undulation along the vertical mask sidewalls.



Further, FIG. 10B's mask 23b is at a reduced target width. In order to provide proper trim-treat timing, Applicant's invention includes for example (claim 10), "trimming condition calculating means for calculating a condition required for said trimming treatment to obtain a desired mask width on the basis of a precedently measured width dimension of said patterned mask and **a precedently measured amount of edge undulation along vertical mask sidewalls**, as well as the amount of radicals measured by said plasma monitor, wherein the trimming treatment is carried out for the trimming condition calculated by said trimming condition calculating means." Other ones of Applicant's claims have similar features/limitations.

Turning now to rebuttal of the art, and in particular, the Rauf article, it is respectfully noted that Rauf is deficient in at least two regards. First, it appears that Rauf is not directed to treating edge undulation along vertical mask sidewalls, and is instead directed toward treating roughness being three-dimensional in nature (page 656, col.2, lines 4-5). More particularly, it is noted on page 256 of Rauf, right-hand

column, first full paragraph, that one type of line edge roughness (or edge undulations, leading to “vertical striations”) is mentioned (page 656, second column, first full paragraph starting with “Experiments have...”), and then such paragraph goes on say that “...the two-dimensional model considered in this article will not apply to this type of roughness.” Thus, Rauf clearly teaches that its approach does not apply to line edge roughness (aka, edge undulations).

As a second deficiency, Rauf nowhere teaches a calculating arrangement for calculating trimming conditions for ultimately arriving at a target width.

With respect to the primary Kagoshima et al. reference, such reference (whether taken alone, or in combination with Rauf) does not cure the deficiencies mentioned above with respect to the Rauf reference.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 500.43597X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

/Paul J. Skwierawski/
Paul J. Skwierawski
Registration No. 32,173

PJS/slk
(703) 312-6600